Energy Efficiency Question 19: *Has Michigan, or have any other jurisdictions, attempted to incentivize peak shaving vs. general energy efficiency? What have been the costs and benefits associated with these policies?*

Executive Summary

1. Many states have attempted to incentivize "peak shaving," also known as demand response or "load shifting"

2. Michigan has introduced a few incentive measures for demand reduction in its Energy Efficiency Resource Standard (EERS); however, the energy efficiency policy has not proven effective in incentivizing increasing demand response in Michigan

3. DTE Energy has established a number of demand response programs for different customer classes. It is in the customers' best interests for the utility to make demand response decisions as part of its Integrated Resource Plan (IRP), in which the costs to reduce peak demand are compared to the costs of purchasing capacity from the market or building a new power plant

4. Two studies are identified addressing cost effectiveness of demand response programs. These studies suggest that not all demand response programs are cost effective; program benefits and costs need to be carefully evaluated in making demand response decisions

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1. **Many states have attempted to incentivize "peak shaving," also known as demand response or "load shifting"**

   As demonstrated in the chart below, demand reduction can be achieved through general energy efficiency programs and through demand response programs. Together, energy efficiency and demand response are known as demand side management (DSM). Demand reduction can be accomplished through general energy efficiency programs by encouraging customers to adopt technologies that reduce energy consumption <u>permanently</u> at peak demand time periods. Demand response programs, also known as "peak shaving" or "load shifting", are different in that they incentivize reducing electric consumption <u>temporarily</u> in response to price signals, incentives, or information from electric grid operators at peak periods. Generally, they are designed to shut off equipment and technologies that are consuming energy during a critical supply shortage. They do not result in much overall energy savings. Rather, they help mitigate the requirements of generation capacity and improve system reliability during peak demand periods.

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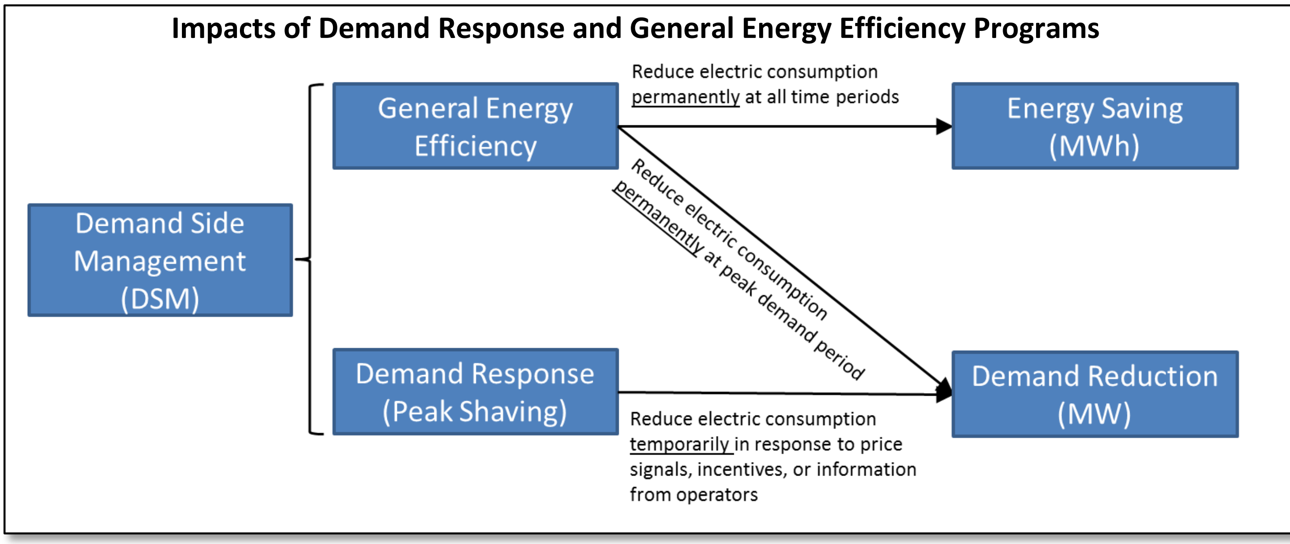

Demand response programs can be classified into four categories: (1) direct load control, (2) price responsive demand, (3) interruptible rates, and (4) behind the meter generation. The primary categories of demand response programs are price responsive demand and direct load control. These programs are intended to reduce electric demand during periods of high demand (and wholesale prices), providing an alternative to building new generation capacity. These programs enable customers to save on energy costs by shifting their consumption patterns to less expensive times of the day, or in another word, enable system "peak shaving".[1]

According to the 2012 FERC assessment of demand response and advanced metering[2], almost all states, including Michigan, have established multiple demand response programs. Many states have included financial mechanisms to fund, and in some cases encourage, demand response programs. Two types of financial mechanisms are identified specific to demand response:

Direct cost recovery: Direct cost recovery refers to regulator-approved mechanisms for the recovery of costs related to the administration of demand response by the administrator and implementation costs such as marketing. Such costs are recovered through rate cases, system benefits charges, and tariff rider/surcharges. Many states have also established specific program budgets to fund direct cost recovery for demand response programs. The Consortium for Energy Efficiency reported that the total U.S. ratepayer-funded program budgets for electric

[1] http://www.michigan.gov/mpsc/0,4639,7-159-16377_47107-198661--,00.html. http://www.michigan.gov/documents/mpsc/reduce_peak_demand_12_10_341373_7.pdf. Accessed March 26, 2013.
[2] Assessment of Demand Response and Advanced Metering. FERC. 2012. http://www.ferc.gov/legal/staff-reports/12-20-12-demand-response.pdf. Accessed March 27. 2013.

demand response amounted to $873.4 million in 2012. The report also listed the program budgets for demand response on a state-by-state basis[3] (refer to Appendix I).

Performance based incentives: Performance based incentives allow utilities to earn a return on their investments in demand response, typically similar to the return on supply-side investments, or get a share of the savings created by demand response. For instance, North Carolina, Ohio and South Carolina have allowed the "Save-a-Watt" programs by Duke Energy. Through the program, Duke Energy receives 75% of the Net Present Value (NPV) for the avoided costs for demand response and 55% of the NPV for the avoided costs for energy saving. Texas is another example where utilities are awarded a performance bonus (share of the net benefits) for exceeding established demand reduction goals (refer to Appendix II for the detailed discussion).

2. Michigan has introduced a few incentive measures for demand reduction in Energy Efficiency Resource Standard (EERS); however, the energy efficiency policy has not proven effective in incentivizing increasing demand response in Michigan

First, the performance incentive mechanism that the Michigan Public Service Commission (MPSC) approved for DTE Energy only incentivizes the general energy efficiency programs that have a demand reduction component; it does not incentivize demand response. Demand response, by definition, does not result in much energy saving. To qualify for the energy efficiency performance incentives, programs have to meet energy saving targets. The performance incentive allows DTE Energy to earn an additional 0.33%-1% of the overall program spending if the electric providers achieve at least 100.1% of the mandated base energy savings and certain system peak reduction requirements set by the commission for the utility. DTE Energy can only achieve demand reduction credits by encouraging customers to adopt technologies that provide general energy efficiency with the demand reduction component at peak demand time periods. Demand response itself cannot qualify for the incentives. (Refer to Appendix III for performance incentive mechanism for DTE Energy including the demand reduction component.)

Second, if an energy optimization plan included investments in demand response, those investments would proportionately increase the energy saving targets for electric providers according to the provisions in PA-295. This has become a significant barrier for including demand response in energy optimization plans. Michigan PA-295 stipulates that if an electric provider uses demand response to achieve energy savings under its energy optimization plan,

[3] Consortium for Energy Efficiency. State of the Efficiency Program Industry: Budgets, Expenditures, and Impacts 2012. http://www.cee1.org/annual-industry-reports, posted April 2012. Accessed April 1, 2013.

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the minimum energy saving requirements need to be increased so that the ratio of the minimum energy savings to the total program expenditures including both general energy efficiency and demand response remains constant. The following example best illustrates this point:

Illustration:

How investments in demand response increase minimum electric saving requirements

- Electric provider A in Michigan has a minimum energy saving requirement of 1,000 MWh in 2012
- They spent a total of $5,000 on various energy efficiency programs to achieve the 1,000 MWh saving, of which demand response accounts for $1,000 spending
- Michigan PA-295 requires that electric provider A has to increase the minimum energy saving requirement from 1,000 MWh to 1,250 MWh so that the ratio of minimum energy savings to the total program expenditures remains constant:

$$\frac{1{,}000\ MWh\ Minimum\ Saving}{\$\ 4{,}000\ General\ EE} = \frac{1{,}250\ MWh\ Minimum\ Saving}{\$4{,}000\ on\ General\ EE + \$1{,}000\ on\ Demand\ Response}$$

In the example above, the 25% investment in demand response ($1,000 on demand response out of $5,000 total expenditures) leads to a 25% increase in the minimum energy saving requirements (from 1,000 MWh minimum energy saving to 1,250 MWh minimum energy saving) for the electric provider. The increased minimum energy saving requirement makes it more costly to achieve the energy efficiency target, which increases costs to Michigan families and businesses. This has become a <u>significant barrier for electric providers in Michigan to justify the inclusion of demand response programs in their energy optimization plans</u>.

3. DTE Energy has established a number of demand response programs for different customer classes. It is in the customers' best interests for the utility to make demand response decisions as part of its Integrated Resource Plan (IRP), in which the costs to reduce peak demand are compared to the costs of purchasing capacity from the market or building a new power plant

DTE Energy has established a number of different demand response programs as summarized in the table below. DTE Energy's peak demand reduction capability is estimated to be 584 MW in 2013. This is believed to be the highest level of demand response of any entity in the service territory of Midwest Independent System Operator (MISO)[4].

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[4] MPSC Case U-16020. DTE Energy Comments. http://efile.mpsc.state.mi.us/efile/docs/16020/0050.pdf. Accessed April 1, 2013

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DTE Energy Demand Response Resources

Customer Class	Description	# of Customers	2013 Peak Demand Reduction Estimate (MW)
D1.1	Interruptible Air Conditioning	280,000	155
D5	Interruptible Water Heating	57,000	25
D3.3	Interruptible General Service	276	21
D8	Interruptible Supply Rate	281	133
R10	Interruptible Supply Rider	60	191
R1.1	Alternative Metal Melting	20	6.4
R1.2	Process Heat	193	53
TOTAL		**337,830**	**584**

DTE Energy is currently running a Dynamic Peak Pricing (DPP) pilot as part of the SmartCurrents[5] program. Funded from the Department of Energy (DOE) grants[6], this pilot will help us better understand demand response potential, customer acceptance and cost effectiveness of similar programs.

Furthermore, it is in customers' best interests for the utility to make demand response decisions as part of its Integrated Resource Plan (IRP). Demand reduction (either permanently reducing load via general energy efficiency measures or temporarily shifting usage via demand response), purchasing capacity from the market, and building a new power plant are the three primary options to ensure adequate capacity reserve and system reliability during peak demand periods. The costs of reducing peak demand should be compared to the costs of purchasing capacity from the market or building a new power plant before making demand response decisions. DTE Energy is in a position to expand the existing demand response programs or develop new programs in the future should there be an economic justification to do so.

4. **Two studies are identified addressing cost effectiveness of demand response programs. These studies suggest that not all demand response programs are cost effective; program benefits and costs need to be carefully evaluated in making demand response decisions**

   Two studies are identified below <u>specifically</u> addressing cost effectiveness of demand response programs. These studies demonstrate varying degrees of cost effectiveness of

[5] SmartCurrents is an integrated utility smart grid solution, involving the installation of upgrades to electrical circuits and advanced meters that use radio transmission to wirelessly exchange information between customers and DTE Energy. It enables the future launch of "smart home" technologies and products, which will allow customers to monitor their electric use and make choices that save money and protect the environment.

[6] As part of the American Recovery and Reinvestment Act grants

different demand response programs: some have benefit cost ratios greater than 1 and some do not. Even for the same type of demand response programs, the cost effectiveness can vary depending on a multitude of factors including consumer behavior, weather, power capacity price, and others. Therefore, benefits and costs need to be carefully evaluated in making demand response decisions.

- Consolidated Edison Company of New York (ConEd) evaluated the cost effectiveness of demand response programs[7]. Cost effectiveness, defined as a ratio of program benefit to program cost, varies considerably for different programs. Direct load control and CoolNYC are cost effective with the benefit cost ratios greater than 1. Distribution load relief program has a benefit cost ratio of 0.58 and is clearly not cost effective. SmartAppliance program has a benefit cost ratio of 0.98, about break-even. (Refer to Appendix IV)

- The Public Service Commission of Maryland summarized the cost effectiveness of 2010 Direct Load Control program under three different scenarios[8]. These scenarios vary on the average kW reduction in load per house, the monetary value of energy and capacity in the PJM market, and varying levels of price mitigation. The direct load control programs at five utilities appear to be cost effective in most scenarios. (Refer to Appendix V)

It is important to note that these studies vary widely on the study period (e.g., one year vs. entire life cycle), methodologies used for the evaluation (e.g., total resource test, utility cost test or participant test), and types of costs considered (e.g., direct program cost, performance incentives). There has not been a consistent methodology for the benefit/cost analysis of demand response programs. Therefore, caution has to be used when examining the study results.

[7] Consolidated Edison Company of New York, Inc. Evaluation of Program Performance and Cost Effectiveness of Demand Response Programs. Case No. 09-E-0115, 10-E-0229, 08-E-1463. Dec 14, 2012. http://magrid.raabassociates.org/Articles/ConEd_DRCostEffectivenessEvals2012.12.pdf. Accessed March 27, 2013

[8] The EmPower Maryland Energy Efficiency Act Standard Report of 2012 with Data for Compliance Year 2011. Public Service Commission of Maryland. March 2012. http://cdm266901.cdmhost.com/cdm/singleitem/collection/p266901coll7/id/3870/rec/5. Accessed March 27, 2013

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Appendix I Program Budgets for Electric Energy Efficiency and Demand Response by State, 2012 (Millions USD)

(Demand response includes both load response and price response)

	Residential	Low Income	C&I	Other*	Total Efficiency	Direct Load Control	Curtailable Load	Interruptible Load	Scheduled Load	Other Load Response	Total Load Response **	Time of Use Pricing	Critical Peak Pricing	Real Time Pricing	Other Pricing	Total Price Response **	Grand Total
Northeast	**338.9**	**132.0**	**1,019.2**	**186.5**	**1,986.5**	**54.6**	**17.4**	**26.9**	**0.0**	**0.0**	**98.9**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**2,108.6**
New England	**208.0**	**74.4**	**406.2**	**38.8**	**728.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**728.8**
Connecticut	31.2	11.8	48.4	12.0	103.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.3
Maine	4.4	5.3	9.1	3.4	22.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.3
Massachusetts	136.0	48.7	281.2	18.3	484.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	484.3
New Hampshire	6.0	2.7	9.3	0.2	19.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.5
Rhode Island	20.5	5.9	34.0	1.1	61.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	61.4
Vermont	10.0	0.1	24.2	3.8	38.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.0
Mid-Atlantic	**130.8**	**57.6**	**613.0**	**147.7**	**1,257.7**	**54.6**	**17.4**	**26.9**	**0.0**	**0.0**	**98.9**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**1,379.8**
New Jersey	62.9	14.3	221.2	18.1	320.1	20.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	343.5
New York	29.8	26.4	297.6	115.1	680.6	3.9	10.4	0.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	697.5
Pennsylvania	38.2	16.9	94.3	14.6	257.0	30.8	6.9	26.9	0.0	0.0	64.6	0.0	0.0	0.0	0.0	0.0	338.8
Midwest	**287.7**	**45.4**	**319.3**	**177.6**	**904.1**	**49.4**	**16.6**	**84.4**	**0.0**	**0.0**	**150.4**	**0.0**	**0.0**	**1.5**	**0.0**	**1.6**	**1,069.4**
Illinois	57.9	13.1	31.8	105.9	208.6	4.2	0.6	0.0	0.0	0.0	4.8	0.0	0.0	1.5	0.0	1.5	215.9
Indiana	29.8	5.1	27.1	0.7	62.7	10.0	0.2	44.8	0.0	0.0	55.0	0.0	0.0	0.0	0.0	0.0	117.7
Iowa	30.0	1.8	53.4	5.4	90.6	8.4	10.4	25.3	0.0	0.0	44.1	0.0	0.0	0.0	0.0	0.0	134.7
Kansas	0.0	0.0	0.2	0.3	0.5	6.4	0.0	6.5	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	13.5
Michigan	48.4	8.1	61.5	26.6	152.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	152.3
Minnesota	36.8	4.2	48.9	4.1	94.0	11.4	0.1	7.8	0.0	0.0	19.3	0.0	0.0	0.0	0.0	0.0	113.3
Missouri	13.4	0.8	11.3	0.9	26.3	2.8	3.9	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	33.0
Nebraska	1.6	0.0	3.6	1.1	6.2	4.7	1.0	0.0	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	11.9
North Dakota	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.8
Ohio	45.6	12.3	60.8	15.5	200.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	212.9
South Dakota	0.4	0.0	0.5	0.1	1.0	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	1.2
Wisconsin	23.9	0.0	20.3	17.0	61.2	0.8	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.1	62.1
South	**329.3**	**67.1**	**254.1**	**67.7**	**762.5**	**223.8**	**53.9**	**89.3**	**0.0**	**19.6**	**386.6**	**0.0**	**6.1**	**5.3**	**0.0**	**11.4**	**1,195.5**
South Central	**127.0**	**46.5**	**133.6**	**40.8**	**347.9**	**18.6**	**49.1**	**39.8**	**0.0**	**0.0**	**107.4**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**458.2**
Alabama	4.8	0.0	2.0	3.3	10.1	0.3	7.6	37.7	0.0	0.0	45.7	0.0	0.0	0.0	0.0	0.0	55.7
Arkansas	20.6	2.2	23.8	2.5	49.2	7.8	0.0	0.0	0.0	0.0	7.8	0.0	0.0	0.0	0.0	0.0	57.4
Kentucky	14.9	5.0	9.0	7.4	36.4	8.6	3.9	0.0	0.0	0.0	12.5	0.0	0.0	0.0	0.0	0.0	50.8
Mississippi	1.6	0.4	1.6	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7
Louisiana	4.7	0.0	3.9	3.3	11.9	0.0	2.5	2.1	0.0	0.0	4.6	0.0	0.0	0.0	0.0	0.0	16.5
Oklahoma	12.7	9.5	11.7	0.3	34.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.1
Tennessee	17.3	0.0	19.5	21.5	58.2	0.0	22.1	0.0	0.0	0.0	22.1	0.0	0.0	0.0	0.0	0.0	80.3
Texas	50.4	29.4	62.0	2.5	144.4	1.8	13.0	0.0	0.0	0.0	14.7	0.0	0.0	0.0	0.0	0.0	159.7
South Atlantic	**202.3**	**20.5**	**120.5**	**26.8**	**414.6**	**205.2**	**4.9**	**49.5**	**0.0**	**19.6**	**279.1**	**0.0**	**6.1**	**5.3**	**0.0**	**11.4**	**737.3**
Delaware	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
District of Columbia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Florida	114.8	4.0	42.2	18.0	200.0	146.2	0.7	38.5	0.0	19.6	204.9	0.0	6.1	0.0	0.0	6.1	411.0
Georgia	17.6	2.0	9.4	0.8	29.9	2.0	0.3	11.1	0.0	0.0	13.4	0.0	0.0	5.3	0.0	5.3	48.5
Maryland	24.8	9.3	35.7	2.6	94.0	44.0	0.3	0.0	0.0	0.0	44.3	0.0	0.0	0.0	0.0	0.0	138.3
North Carolina	32.8	3.3	22.2	3.4	61.7	11.3	2.8	0.0	0.0	0.0	14.1	0.0	0.0	0.0	0.0	0.0	98.3
South Carolina	9.9	1.0	7.5	0.5	19.0	1.8	0.4	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	30.8
Virginia	0.1	0.0	0.0	0.1	0.2	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.6
West Virginia	2.1	1.0	3.6	1.4	9.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.9
West	**482.5**	**176.4**	**987.2**	**364.4**	**2,046.3**	**118.6**	**33.0**	**21.1**	**0.1**	**44.6**	**217.5**	**0.0**	**2.4**	**0.2**	**4.4**	**7.0**	**2,517.4**
Pacific Northwest	**135.6**	**19.0**	**248.5**	**158.1**	**561.2**	**24.8**	**5.0**	**0.0**	**0.0**	**2.2**	**32.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**593.3**
Idaho	7.1	3.3	20.0	2.3	32.7	24.1	3.6	0.0	0.0	0.0	27.6	0.0	0.0	0.0	0.0	0.0	60.3
Montana	4.5	0.7	6.5	2.1	13.8	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	13.8
Oregon	37.4	0.1	80.6	2.5	120.6	0.8	0.2	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	121.6
Washington	79.5	9.9	119.7	19.8	228.8	0.0	1.2	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	230.0
BPA and NEEA	7.2	5.0	21.7	131.4	165.4	0.0	0.0	0.0	0.0	2.2	2.2	0.0	0.0	0.0	0.0	0.0	167.6

Energy Efficiency Question 19: *Has Michigan, or have any other jurisdictions, attempted to incentivize peak shaving vs. general energy efficiency? What have been the costs and benefits associated with these policies?*

	Residential	Low Income	C&I	Other*	Total Efficiency	Direct Load Control	Curtailable Load	Interruptible Load	Scheduled Load	Other Load Response	Total Load Response **	Time of Use Pricing	Critical Peak Pricing	Real Time Pricing	Other Pricing	Total Price Response **	Grand Total
Pacific West	**241.9**	**148.8**	**587.7**	**185.7**	**1,199.9**	**28.4**	**23.8**	**21.0**	**0.1**	**41.9**	**115.3**	**0.0**	**2.4**	**0.2**	**4.4**	**7.0**	**1,568.9**
Alaska	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
California	228.6	147.6	571.3	183.3	1,166.6	28.4	23.8	21.0	0.1	41.9	115.3	0.0	2.4	0.2	4.4	7.0	1,535.6
Hawaii	13.2	1.3	16.4	2.4	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3
Southwest	**105.0**	**8.5**	**151.0**	**20.6**	**285.1**	**65.4**	**4.2**	**0.1**	**0.0**	**0.4**	**70.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**355.2**
Arizona	50.3	3.2	56.6	11.0	121.1	11.0	4.2	0.0	0.0	0.0	15.3	0.0	0.0	0.0	0.0	0.0	136.4
Colorado	19.0	2.8	43.0	5.8	70.6	13.5	0.0	0.0	0.0	0.0	13.5	0.0	0.0	0.0	0.0	0.0	84.0
Nevada	12.8	0.0	14.4	1.1	28.2	21.3	0.0	0.0	0.0	0.4	21.7	0.0	0.0	0.0	0.0	0.0	49.9
New Mexico	8.6	2.0	12.7	1.1	24.4	8.7	0.0	0.1	0.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0	33.2
Utah	12.8	0.3	21.6	1.5	36.1	10.9	0.0	0.0	0.0	0.0	10.9	0.0	0.0	0.0	0.0	0.0	47.0
Wyoming	1.5	0.3	2.8	0.2	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7
Total	**1,438.3**	**420.8**	**2,579.9**	**796.2**	**5,699.4**	**446.4**	**120.9**	**221.7**	**0.1**	**64.2**	**853.4**	**0.0**	**8.6**	**7.0**	**4.4**	**20.0**	**6,890.9**

Notes:
No organization responded with data in states marked with " - ."
The numbers in the sector categories don't always add up to the total because some respondents only provided a total and didn't break out their information by sector.
* In cases in which EM&V is not allocated by customer class, it is included in "other."
** A large number of program administrators reported that they didn't administer any kind of demand response programs. CEE adjusted the demand response categories in the survey this year and made an effort to convey to respondents that we only wanted information on demand response programs that were administered by program administrators, and not those administered by an ISO (like ISO New England).

Energy Efficiency Question 19: *Has Michigan, or have any other jurisdictions, attempted to incentivize peak shaving vs. general energy efficiency? What have been the costs and benefits associated with these policies?*

Appendix II Performance Based Incentives for Demand Response Programs (not all-inclusive)

State	Performance Incentives	Status
North Carolina	North Carolina state law states that a utility may propose incentives for demand side management or energy efficiency programs to the Commission for consideration. The commission approved Progress Energy Carolina's incentive mechanism that allows for an incentive of 8% of NPV of benefits from DSM programs and 13% of NPV from EE programs. The Commission is considering an avoided cost recovery mechanism submitted by Duke Energy. The Commission issued a notice of decision approving Duke Energy Carolinas' Save-a-Watt program in December 2009 with a full decision to follow in January 2010. The program is similar to that in Ohio, where Duke will receive 50% of the net present value (NPV) of the avoided costs for conservation and 75% of the NPV for demand response	Approved
Ohio	Duke Energy received approval in December of 2008 for its proposed "Save-a-Watt" program, where the utility will receive 50% of the NPV of the avoided costs for energy conservation and 75% of the NPV of the avoided costs for demand response.	Approved
South Carolina	South Carolina law stipulates that the PSC "may adopt procedures that encourage electrical utilities [...] to invest in cost-effective energy efficient technologies and energy conservation programs." The Commission approved Progress Energy Carolina's incentive mechanism that allows for an incentive of 8% of NPV of benefits from DSM programs and 13% of NPV from EE programs. The Commission issued a notice of decision approving Duke Energy Carolina's Save-A-Watt program in December 2009 with full decision to follow in January 2010. The program calls for Duke to receive 55% of the net present value (NPV) of the avoided costs for conservation and 75% of the NPV for demand response.	Approved
Texas	Texas state code specifies that a utility may be awarded a performance bonus (a share of the net benefits) for exceeding established demand reduction goals that do not exceed specified cost limits. Net benefits are the total avoided cost of the eligible programs administered by the utility minus program costs. The performance bonus is based on the utility's energy efficiency achievements for the previous calendar year. If a utility exceeds 100% of its demand reduction goal, the bonus is equal to 1% of the net benefits for every 2% that the demand reduction goal has been exceeded, up to a maximum of 20% of the utility's program costs. A utility that meets at least 120% of its demand reduction goal with at least 10% of its savings achieved through Hard-to-Reach programs receives an additional bonus of 10% of the bonus calculated.	Approved

Energy Efficiency Question 19: *Has Michigan, or have any other jurisdictions, attempted to incentivize peak shaving vs. general energy efficiency? What have been the costs and benefits associated with these policies?*

Appendix III Performance Incentive Mechanism for DTE Energy[9]

Performance Metric	Description	Minimum Performance to earn incentive	Incentive amount at Minimum Performance	Point at which Maximum Incentive is earned	Maximum Incentive
Base Energy Savings	GWh of energy savings from all programs, including a 1.10 multiplier for long-life measures.	100.1%	8%	115%	12%
Low Income Programs	GWh savings from low income programs	17 GWh	0.67%	20.4 GWh	2%
Multi-Measure Residential	Increase participants who install 3+ measures.	50% increase in 2013; 33% in 2014; 33% in 2015.	0.33%	60% increase in 2013; 40% increase in 2014; 40% increase in 2015.	1%
Multi-Measure C&I	Increase participants who install measures from 2+ categories	Same as above	Same as above	Same as above	1%
Demand Savings	Total coincident peak savings from all programs.	80 MW in 2013 85 MW in 2014 90 MW in 2015	0.33%	96 MW in 2013 102 MW in 2014 108 MW in 2015	1%

Appendix IV Cost Effectiveness of Demand Response Programs in ConEd

Demand Response Program	2012 Cost Effectiveness
Distribution Load Relief Program	0.58
Direct Load Control Program (Residential)	1.54
Direct Load Control Program (Small Business)	1.95
Smart Appliance Program	0.98
CoolNYC Program	1.7

Appendix V Cost Effectiveness of Direct Load Control Program using Total Resource Test (TRC)

Utility	Base Case TRC	High Case	Low Case
BGE	3.79	4.93	1.25
Pepco	4.90	6.00	0.57
DPL	4.83	6.68	0.47
SMECO	1.68	2.05 (Res) 2.02 (Com)	0.42 (Res) 0.93 (Com)

Source: Itron, *Cost-Effectiveness Analysis of 2010 Demand Response Programs Operated in Maryland*, July 14, 2011

[9] MPSC Case No. U-17049. Commission Opinion and Order. http://www.dleg.state.mi.us/mpsc/orders/electric/2012/u-17049_12-20-2012.pdf. Accessed on March 27, 2013.